

From the above quotations it appears evident the birds were quite numerous about 1838, some seasons appearing in greater numbers than in others, the date of their arrival, however, always being somewhat erratic.

So far, unfortunately, I have been unable to obtain any reliable information from the older inhabitants concerning the date of the last pigeons seen here, but probably they disappeared between 1880 and 1885, although it is possible a few stragglers may have lingered even up to 1896, the date of the last one recorded in Maine.

DICHROMATISM IN THE WEDGE-TAILED SHEARWATER.

BY LEVERETT MILLS LOOMIS.

*Plate XIX.*¹

THE Wedge-tailed Shearwater (*Puffinus chlororhynchus*) appears to be restricted to the warmer areas of the Indian and Pacific oceans. It has been definitely reported as breeding on the Seychelle and Mascarene islands in the western Indian Ocean, on islands off the west and east coasts of Australia, on Lord Howe, Norfolk, Kermadec, and Surprise islands in the southwestern Pacific, and in the North Pacific on Volcano and Marcus islands, the Leeward group and Kauai of the Hawaiian Archipelago, and San Benedicto of the Revilla Gigedo Islands. Specimens have been obtained in the Caroline, Marshall, Phoenix, Fanning, and Society islands. Whether any of the colonies are migratory, remains to be determined.

In the extreme dark phase of this Shearwater, the general color aspect of the upper parts is dark brown and that of the lower grayish brown, becoming gray on the foreneck. In the extreme light phase, the general aspect is grayish brown above and white below, except on lower tail-coverts. Intermediates have the white

¹ The photograph reproduced in this plate was kindly taken for me by Mr. L. R. Reynolds.

of the lower parts more or less obscured with gray or grayish brown.

A difference exists in the geographic range of the two phases. The light phase is predominant in the Hawaiian Archipelago, dark-breasted birds being of rare occurrence. On San Benedicto Island the dark phase is in the ascendency, greatly outnumbering the intermediates and white-breasted birds. In the Kermadec Islands only the dark phase is represented. On the east coast of Australia and in the Indian Ocean dark birds also prevail; but sporadic white-breasted ones may occur, for Gould figures such a specimen in Volume VII of his 'Birds of Australia.'

Although there is a difference in their distribution, the phases of this Shearwater do not correlate with climatic conditions after the manner of geographic variation. On Sunday Islet of the Kermadec group, where the light phase is absent, both phases of the Neglected Petrel are abundant, witnessing that there are no climatic barriers excluding light phases. In continental dichromatic species the factor of island isolation is eliminated and the lack of harmony of phases with environmental conditions is still more apparent. For instance, the light phase of the Red-tailed Hawk prevails in the humid Eastern States, while both the dark and light phases occur in the arid Western States, along with the gray phase of the Screech Owl and the dark and light phases of Swainson's Hawk. Further examples of the distribution of phases, independent of environment, may be found among the Herons¹ and other groups having dichromatic species.

Like geographic variation, dichromatic variation has frequently been mistaken for characters of specific rank, giving rise to numerous apocryphal species. The light phases of *Puffinus chlororhynchus* and *Pterodroma neglecta* have been respectively designated "*Puffinus cuneatus*" and "*Æstrelata leucophrys*."

Dichromatic and individual variations have evolutionary possibilities, and there are just as good reasons for treating dichromatic variations (possible mutations) on the subspecies basis as there are for treating geographic variations on that basis. Whatever course is pursued, the fact remains that the subspecies rests on no better foundation than a theory that begs the question; for we do

¹ Cf. Bangs, Auk, Vol. XXXII, 1915, pp. 481-484.

not know the remote future of any of these variations, nor the manner in which existing bird species were evolved.

The subspecies theory has often been justified on the ground that it is a convenient method of handling geographic variations.¹ One has only to read Dr. Oberholser's "Monograph of the Genus *Chordeiles*"² to learn that the attempt to give definiteness to indefinite variations involves the student in an interminable maze. It is maintained that the only way out of the subspecies dilemma is to treat geographic variation in the same manner as dichromatic and individual variations are commonly treated.

THE NEST AND EGGS OF WAYNE'S WARBLER (*DENDROICA VIRENS WAYNEI*) TAKEN NEAR MOUNT PLEASANT, S. C.

BY ARTHUR T. WAYNE.

THE hope of finding the nest and eggs of this new bird was eagerly looked forward to during the spring of this year, and on March 20, 1919, I visited the place where the type specimen was taken on April 25, 1918. A few males were heard singing from the topmost branches of some tall, gigantic, deciduous trees, and were also seen to fly into very tall pines, which latter trees the birds seemed to prefer.

On March 31 I again visited the place, and although convinced that the birds were mated and the females engaged in constructing nests it was impossible to catch even a glimpse of the latter, and the males left no clue as to the whereabouts of their mates. Although much discouraged I had not given up hope, and on April 18 Mr. J. H. Moessner, who accompanied me and who took me on the previous trips in his automobile, made every effort to locate the

¹ Cf. Dwight, Auk, Vol. XXI, 1904, p. 64.

² U. S. Nat. Mus. Bull. 86, 1914; see especially pp. 16-18.